

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A system for processing packets of information, the system comprising:

an ingress module comprising an ~~including a~~ LAC, the ingress module receiving a plurality of packets of information from a first network, the ingress module determining the type of each of the plurality of packets; and

a route server module comprising an LNS, the route server module being coupled to the ingress module, the route server module sending a distributed processing request to the ingress module;

wherein the ingress module receives the distributed processing request and, responsively, performs Multi-Protocol Label Switching (MPLS) ~~a first set of processing operations on data packets of the plurality of packets and routes the MPLS processed packets, and selected ones of the plurality of packets, the selected ones of the plurality of packets being of a first type, and~~

wherein the ingress module forwards non-data packets ~~others of the plurality of packets~~ of information to the route server module via an L2TP tunnel established between the LAC and the LNS, ~~each of the others of the plurality of packets being of a type distinct from the first type;~~ and

wherein ~~the said~~ route server module receives the non-data packets ~~others of the plurality~~ of packets of information and performs centralized ~~a second set of processing operations on the non-data packets. others of the plurality of packets of information.~~

2. (Currently amended) The system of claim 1, wherein the MPLS ~~first set of processing operations~~ comprises swapping a first MPLS label with a second MPLS label.

~~includes forwarding the selected ones of the plurality of packets of information to an egress module.~~

3. (Currently amended) The system of claim 1, wherein the centralized ~~second set of processing comprises operations includes~~ establishing a connection with an entity on the Internet.

4-5. (Cancelled)

6. (Currently amended) A method comprising:

receiving a plurality of packets of information from a first network at an ingress module, the ingress module comprising an ~~including a~~ LAC;

determining the type of each of the plurality of packets;

sending a distributed processing request from a route server module to the ingress module, the route server module comprising an LNS;

receiving the distributed processing request at the ingress module and, responsively, performing Multi-Protocol Label Switching (MPLS) ~~a first set of processing operations on selected ones data packets~~ of the plurality of packets and routing the MPLS processed packets; ~~the selected ones of the plurality of packets being of a first type~~;

forwarding non-data packets ~~others~~ of the plurality of packets of information from the ingress module to the route server module via an L2TP tunnel established between the LAC and the LNS; ~~each of the others of the plurality of packets being of a type distinct from the first type~~;

and

receiving the non-data packets ~~others of the plurality of packets of information~~ at the route server module and performing centralized ~~a second set of processing operations on the non-data packets~~ ~~others of the plurality of packets of information~~ at the route server module.

7. (Currently amended) The system of claim 6, wherein the MPLS ~~first set of processing comprises~~ ~~operations includes forwarding the data packets~~ ~~selected ones of the plurality of packets of information to an egress module.~~

8. (Currently amended) The system of claim 6, wherein the centralized ~~second set of processing comprises~~ ~~operations includes~~ establishing a connection with an entity on the Internet.

9-10. (Cancelled)

11. (Currently amended) A routing device comprising:
an ingress portion comprising an LAC, the ingress portion receiving negotiation packets;
and
a route server portion coupled to the ingress portion, the route server portion comprising
~~including an LNS~~, the route server portion receiving the negotiation packets from the ingress
portion via an L2TP tunnel established between the LAC and the LNS and completing a
negotiation, the route server portion sending a distributed switching request message to the
ingress portion upon the completion of a negotiation;

wherein the ingress portion receives the distributed switching request message and, responsively, sends a reply message to the route server portion; and

wherein the ingress portion, upon the receipt of the distributed switching request forwarding message, performs Multi-Protocol Label Switching (MPLS) processing on ~~processes~~ subsequently received data packets and routes the MPLS processed packets.

12. (Original) The routing device of claim 11 wherein the ingress portion determines a forwarding equivalence class.

13. (Currently amended) The routing device of claim 11, wherein the data packets include labeling information and the ingress portion uses the label information from the data packets to determine an outgoing link.

14. (Currently amended) The routing device of claim 11, wherein the ingress portion forwards all control packets to the route server portion via the tunnel established between the LAC and the LNS.

15. (Currently amended) The routing device of claim 11, wherein all MPLS LDP, CRLDP, or RSVP packets are routed to the route server portion via the tunnel established between the LAC and the LNS.

16. (Currently amended) A system comprising:

means for receiving a plurality of packets of information from a first network at an ingress module comprising an LAC;

means for determining the type of each of the plurality of packets;

means for sending a distributed processing request from a route server module comprising an LNS to the ingress module;

means for receiving the distributed processing request at the ingress module and, responsively, performing Multi-Protocol Label Switching (MPLS) ~~a first set of processing operations on data packets selected ones of the plurality of packets and routing the MPLS processed packets, the selected ones of the plurality of packets being of a first type;~~

means for forwarding non-data packets ~~others of the plurality of packets of information from the ingress module to the route server module via an L2TP tunnel established between the LAC and the LNS, each of the others of the plurality of packets being of a type distinct from the first type;~~ and

means for receiving the non-data packets ~~others of the plurality of packets of information at the route server module and performing centralized~~ ~~a second set of processing operations on the non-data packets~~ ~~others of the plurality of packets of information at the route server module.~~

17. (Currently amended) A computer readable medium having stored therein instructions for causing a processing unit to execute the following method:

receiving a plurality of packets of information from a first network at an ingress module comprising an LAC;

determining the type of each of the plurality of packets;

sending a distributed processing request from a route server module comprising an LNS to the ingress module;

receiving the distributed processing request at the ingress module and, responsively, performing Multi-Protocol Label Switching (MPLS) ~~a first set of processing operations on data packets selected ones of the plurality of packets and routing the MPLS processed packets, the selected ones of the plurality of packets being of a first type;~~

forwarding non-data packets ~~others of the plurality of packets of information from the ingress module to the route server module via an L2TP tunnel established between the LAC and the LNS, each of the others of the plurality of packets being of a type distinct from the first type;~~ and

receiving the non-data packets ~~others of the plurality of packets of information at the route server module and performing centralized a second set of processing operations on the non-data packets others of the plurality of packets of information at the route server module.~~

18. (Currently amended) A computer program for processing packets, the program comprising:

first code for receiving a plurality of packets of information from a first network at an ingress module comprising an LAC;

second code for determining the type of each of the plurality of packets;

third code for sending a distributed processing request from a route server module comprising an LNS to the ingress module;

fourth code for receiving the distributed processing request at the ingress module and, responsively, performing Multi-Protocol Label Switching (MPLS) ~~a first set of processing~~

~~operations on data packets selected ones of the plurality of packets and routing the MPLS processed packets, the selected ones of the plurality of packets being of a first type;~~

fifth code for forwarding non-data packets ~~others~~ of the plurality of packets of information from the ingress module to the route server module via an L2TP tunnel established between the LAC and the LNS, ~~each of the others of the plurality of packets being of a type distinct from the first type;~~ and

sixth code for receiving the non-data packets ~~others~~ of the plurality of packets of information at the route server module and performing centralized ~~a second set of processing operations on the non-data packets others~~ of the plurality of packets of information at the route server module.

19. (New) The system of claim 1, wherein the MPLS processing comprises assigning an MPLS label to each of the data packets.

20. (New) The system of claim 1, wherein the non-data packets comprise packets selected from the group consisting of (i) control packets, (ii) routing protocol packets, (iii) MPLS label distribution protocol (LDP) packets, (iv) Constraint Based LDP (CRLDP) packets, and (v) Resource Reservation Protocol – Traffic Engineering (RSVP-TE) packets.

21. (New) The method of claim 6, further comprising:
removing a Point-to-Point Protocol (PPP) header from each of the data packets of the plurality of packets at the ingress module.

22. (New) The method of claim 21, further comprising:
performing decompression on the data packets of the plurality of packets at the ingress module.

23. (New) The method of claim 6, further comprising:
encapsulating each of the data packets with a Point-to-Point Protocol (PPP) header; and
forwarding the encapsulated packet to a destination on a second network that carries packets according to the PPP.

24. (New) The method of claim 23, further comprising:
performing compression on the data packets of the plurality of packets at the ingress module.

25. (New) The method of claim 6, wherein prior to receiving the distributed processing request at the ingress module, the ingress module tunnels all received packets of the plurality of packets of information to the route server module via the tunnel established between the LAC and the LNS.

26. (New) The method of claim 6, further comprising:
receiving, at the ingress module, routing table entries sent from the route server module.

27. (New) The method of claim 6, wherein sending the distributed processing request from the route server module to the ingress module occurs in response to the route server

module completing a given centralized processing operation selected from the group consisting of (i) a Point-to-Point Protocol negotiation process, and (ii) an MPLS negotiation process.